of the Panch Mahâls, are equipped with axes or bill hooks for the purpose of destroying creepers and other noxious growth, and a large amount of work is thus performed, but it fails to make any visible impression, as a rule, on the forests. During the past year, however, the standards in some of the closed coupes of the West Thána Division were specially ordered to be freed of the Loranthus longifolia parasite described in paragraph 187 by Mr. Shuttleworth in the last report. For the Máhim and Váda ranges alone details are available: in the former 37 coupes were treated at a cost of Rs. 56, and in the latter 4,903 creepers were cut by forest guards, entailing no expense.

(*5*). *Experiments.*

128. In the East Thána Division the only experiment made during the year was with Casuarina equisetifolia, seeds of which were sown in baskets and distributed among the beats in the Murbád Range. A fair percentage of the plants appears to have survived the hot weather, but it is doubtful whether they will thrive so far from the sea-coast. The Gulf-date palm seedlings in Mokháda, which were reported to be doing so well in 1890-91, are said to be thriving, having reached a height of 3 to 4 feet, but it is very doubtful whether they will bear fruit. In the Surat Municipal Gardens, where the tree has flourished for nine or ten years, it has not fecundated.

129. The growth of the casuarina in the small experimental plantations in the Dáhánu and Umbargaon ranges of the West Thána Division continued to make satisfactory progress. In the last-named range it was not deemed necessary to water the Deheri plantation any longer. A few of the plants certainly did die off, but it was not proved that their disappearance was due to want of moisture. Experiments for introducing the Gulf-date palm and the sandalwood tree (Santalum album) have not met with any success. Mr. Millett reports as regards the latter that—

"Many experimental sowings of seed have been made, but the plants that come up are poor, stunted and scentless; the majority quickly die. Those that survive give more trouble than they are worth."

130. In the Surat Division the anticipated success of the casuarina plantation, commenced last year near Tithal, has not been realized, as out of 500 seedlings transplanted from the nursery, only 260 were able to survive the hot weather, notwithstanding that the plantation was watered by hand all throughout the dry season, and measures were taken to protect the plants from the south-westerly winds. The sandalwood trees reared in the Bulsár Range some three or four years ago are particularly healthy-looking and have attained a height of 4 feet.

131. In the Panch Mahâls Division no new experiments were attempted during the year. The Gulf-date palm is the only exotic which has taken kindly to this division, there being 98 plants alive.

(*d*). Exploitation of Major Forest Produce.

132. The method of coppice with standards is applied to the forests of the Thána District, but the exploitation actually carried on partakes more of the character of improvement fellings. This mode of working is inevitable, considering that the condition of the forests is as irregular as it possibly can be, owing to their neglected state before Government took up their management, and since their acquisition even having not been treated under any rational system for a number of years. It is sought in this way to combine the advantages of certain reproduction with the improvement of the existing growing stock. The whole area is now divided into 282 blocks, to which a rotation of forty years is applied, so that the extent of the area set apart for exploitation annually is one-fortieth part of each block. According to this sub-division, exploitation of major forest produce was carried on in 225 compartments covering about 12,032 acres.

133. In the Surat Division the forests were exploited in different ways to suit local conditions. Selection and improvement fellings were undertaken in the Mándvi Range over an area of 347 acres yielding 13 trees, or 36 cubic feet to the acre. The method of treatment adopted in the Thána Division was applied